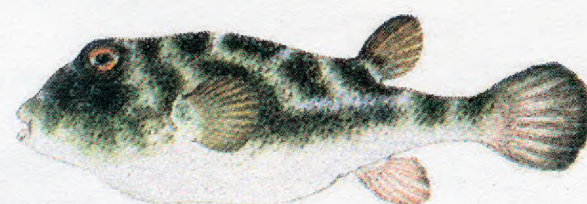
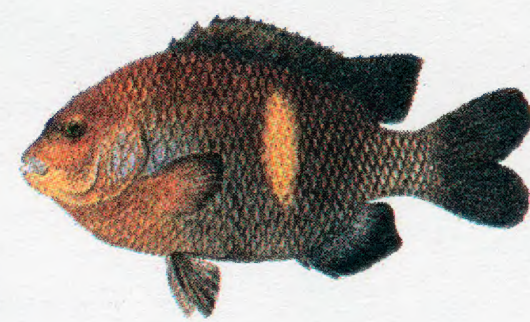


Step Back In Time



Imagine San Francisco in 1853 – a new city, in a mostly unexplored part of the world, surrounded by untouched wilderness filled with unknown species of plants and animals. It was also a city filled with gold fever.

In 1853, gold exports for the year amounted to \$56,390,812; mail was delivered to San Francisco from the East Coast approximately every two weeks; vigilantes roamed the streets; the city's first telegraph was installed; and one of California's US Senators engaged in a public duel.

The new city had such a thirst for knowledge that its population supported nearly 20 newspapers.

As the city was being built, before there was a ballet or a symphony or an art museum—or

any other museum—a small group decided to create a forum for scientific discussion and collecting natural history specimens, the California Academy of Sciences.

The Academy's 150th anniversary exhibit is our chance to share stories from our history and also to tell what we are doing today and what we plan to do in the future. It's also an opportunity to show some of the 18 million specimens we've collected over the years.

One visitor favorite is the preserved giant Galapagos tortoise, which was collected by Academy scientists while on a 17-month voyage to the Galapagos Islands, during which the great earthquake and fire of 1906

struck San Francisco.

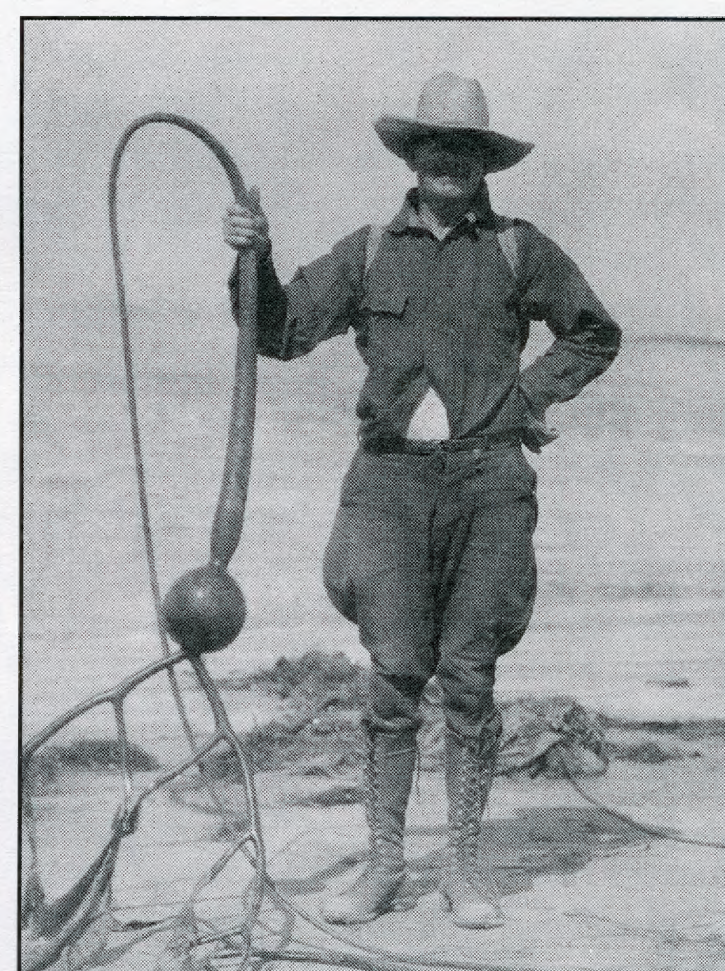
It took 12 days for word of the tragedy to reach our scientists out in the field.

Thousands of other photographs and specimens come together to tell the story of the Academy's past, present and future. We invite you to explore and find your favorites.



Geochelone elephantopus, Galápagos tortoise

PHOTO: GERALD AND BUFF CORSI



H. Walton Clark on an expedition in the Galápagos in 1932.

PHOTO: (N9311) SPECIAL COLLECTIONS/CAS LIBRARY

An Octopus In Our Tank

Imagine that you're just a little Dungeness crab, quietly scuttling along the Pacific sea bed, when all of a sudden, a gigantic tentacle covered with suction cups comes from behind you, then another and another, until eight giant arms covered in thousands of suction cups take control of you and bring you into the black hole of a large beak. Such is the fate of the prey of a Giant Pacific Octopus, one of the most intelligent and complex invertebrates found in the ocean.

The Steinhart Aquarium has displayed Pacific giant octopi since it opened in 1923. At first, we were only able to keep these elegant animals during the cooler months, when we could keep their water at a healthy 53° F. Starting in 1950, when the Leslie Salt Co. funded a chilled seawater system, we were able to exhibit this cephalopod year round.

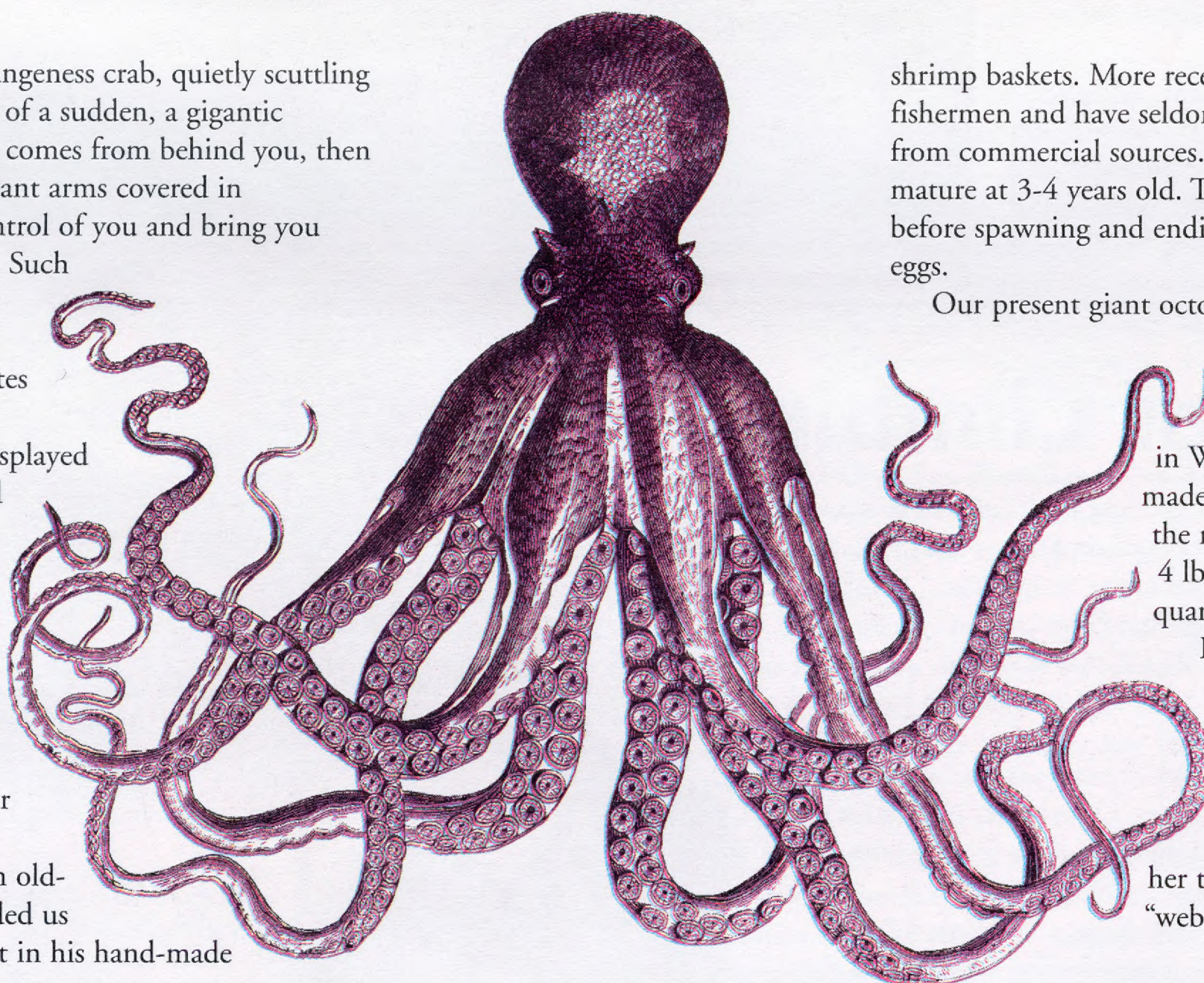
For years, Salvatore Gianino, an old-school Monterey fisherman, provided us with live octopi accidentally caught in his hand-made

shrimp baskets. More recently, we have relied on other local fishermen and have seldom needed to collect or purchase animals from commercial sources. The animals we receive are typically fully mature at 3-4 years old. They seldom live more than 6 months before spawning and ending their normal life-cycle after laying eggs.

Our present giant octopus came from Canada as a yearling last August on a bed of ice and water, which at 34° F, acts as an octopus sedative. When she arrived at the Farallones Tank in Wild California Hall, she immediately made her home in a small, dark hole behind the rockwork. Since then, she has grown from 4 lbs to 28 lbs and has had to move to larger quarters within the same tank.

During the day, she typically comes out only to grab a crab from the staff diver. Look for a "midden" mound or "octopus garden" of crab shells outside of her lair or "den." Her exponential growth rate and gourmet appetite place her tankmates on constant alert for being "webbed."

— Tom Tucker, ttucker@calacademy.org



Message To Members

April 30th was Open House here at the Academy. Nearly 2,000 members and their guests—the most visitors on any evening in over a decade—took advantage of the opportunity to see some of the

hidden surprises in our vast collections of specimens and artifacts. It was an exciting night. I spent much of the time listening to members reminisce about the wonderful times they had at the Academy as kids and as adults.

Everyone was well aware that this was the last chance to look behind the scenes at the workings of this Academy. Many brought

cameras to capture scenes of well-remembered times. By this time next year we will be firmly ensconced in our temporary home at 875 Howard Street.

For those of you who have not yet had a chance to visit the Academy since we installed the 150th anniversary exhibit, I urge you to do so. Part of the exhibit is retrospective. A timeline, hung from the ceiling, describes in words and pictures the journey of the Academy from the first meeting in a real estate office on Montgomery Street over peaks and valleys to the present multi-faceted institution of today.

Many of those facets are arrayed in a second segment of the exhibit, which features representative displays of the behind-the-scenes projects that culminate in both original scientific research and the public activities—educational trips and classes and exhibitions. The third element of this special exhibit is the future, the new Academy.

While this is a work-in-progress, already much has been accomplished. The major architectural decisions have been approved and the larger exhibits which will require specially designed spaces are in their preliminary stages. The drawings, models, and descriptions have been laid out for your perusal. While we have accomplished much, there is still much to do in the months and years ahead. We'll need your support, intellectually, physically, and financially, to address the educational imperatives of the region and the nation.

Patrick Kociolek
Executive Director



PHOTO: DONG LIN

Fresh From The Field

Some plants pay for an army of ant bodyguards by providing their protectors with shelter and food.



PHOTO: DONG LIN

Academy entomologist Brian Fisher recently spent six strenuous months hiking through Madagascar, where he discovered the country's first "ant plants."

Ant plants are relatively common in the tropics, where plants are swarmed by predators. By providing special living quarters for ants inside their stems or leaves, ant plants acquire a highly effective defense system.



PHOTO: DONG LIN

One of the melastome plants that Fisher discovered bears these purple flowers.

solve—the Madagascar ant plants are much more closely related to South American ant plants than they are to their African neighbors.

If you think the housing market is tough in San Francisco, try being an ant in Madagascar. With thousands of insect species competing for space in the same twig, log or leaf litter, finding a safe place to nest is a challenge—which is why at least two ant species have learned to live inside the hollow stems of Madagascar's melastome plants. On a recent expedition to this island off the coast of Africa, Academy entomologist Brian Fisher discovered these new ant species and their accommodating hosts, which are the first "ant plants" known from Madagascar.



PHOTO: DONG LIN

By finding weak, light green patches along the stem of this melastome plant, newly discovered ants from the genus *Leptothorax* can chew their way into a ready-made home.

Because of their natural inclination to protect their home, ants that live in the plants will fight off other insects, larger herbivores, and even encroaching vines. Sometimes this mutually beneficial relationship extends to food as well.

Some ant plants produce protein-rich food nodules for their inhabitants and absorb nutrients from the ants' waste in exchange.

Before the recent expedition, Fisher was puzzled by the apparent lack of ant plants in Madagascar, since they are abundant in Africa, Asia and South America. Now he has a new puzzle to

—Stephanie Greenman, sgreenman@calacademy.org

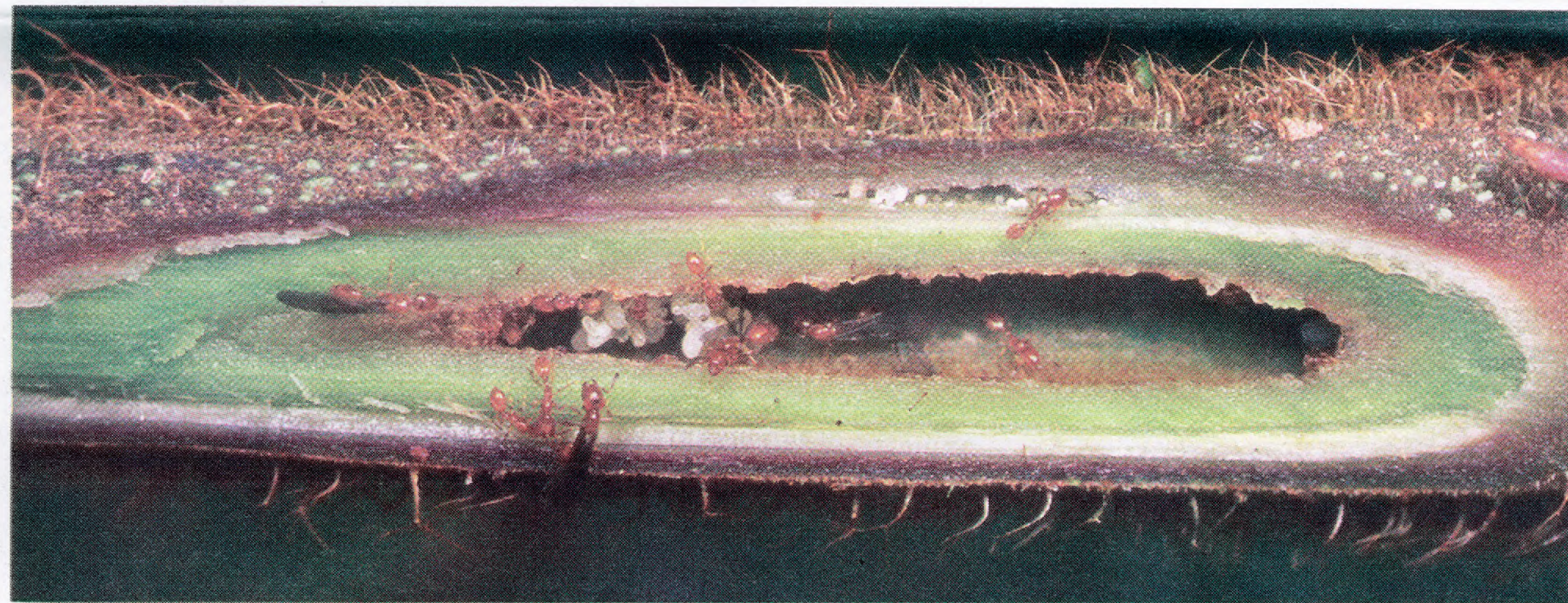


PHOTO: DONG LIN

Fisher sliced open a cross section of this melastome stem to reveal a living area, called a domatia, for the plant's army of *Monomorium* ants.

50 Years of Climbing Everest

Peter Hillary has led a life filled with adventure and exploration. He is a world-class alpinist who—like his father, legendary explorer Sir Edmund Hillary—has climbed Mt. Everest and traversed Antarctica to the South Pole.

In 1990, he and Sir Edmund became the first father and son to summit Everest. Hillary just returned from Everest Base Camp where he commemorated the 50th anniversary of the first ascent of Everest by his father and Tenzing Norgay.

In total, Hillary has been on more than 35 expeditions, including two to the summit of Everest. He has also forged a new route across Antarctica to the South Pole and has completed the first high-altitude traverse across the 3000-mile long Himalayan Range, "the roof of the world."

In addition to his own explorations, Hillary helps raise funds for the Himalayan Trust, a non-profit organization established by Sir Edmund that runs 42 schools and hospitals for villages at the foot of Mt. Everest.

Join Hillary for a photograph-filled presentation as he discusses the value and the impact of adventure travel on remote eco-systems and cultures throughout the world. He describes the science of high-altitude climbs, along with heart-stopping and humorous stories of challenge, perseverance, and achievement that are at once inspirational and entertaining. Author of five books and many articles, Hillary will also be signing his father's book, *View From the Summit*. **Thursday, June 12, 7:30 pm; \$6 members/\$8 non-members** ⑤



Peter Hillary, son of legendary explorer Sir Edmund Hillary, and himself a world-class alpinist, will speak about his adventures at the Academy on June 12.

Upcoming Members Lectures

June 11
Wednesday **Botox Nation**
Dr. Nina G. Jablonski
2 & 7:30 pm
See page 4 for more information.

July 9
Wednesday **Village Children**
Dr. Phil Rasori
2 & 7:30 pm
See page 5 for more information.

August 13
Wednesday **New Zealand's Bird Haven**
Dr. Douglas Long
2 & 7:30 pm
See the next newsletter for more information.

September 10
Wednesday **The Academy's Life Through Time: 150 Years of Discovery**
Dr. John McCosker
2 & 7:30 pm
See the next newsletter for more information.

Unearthing Gems of the Fossil World

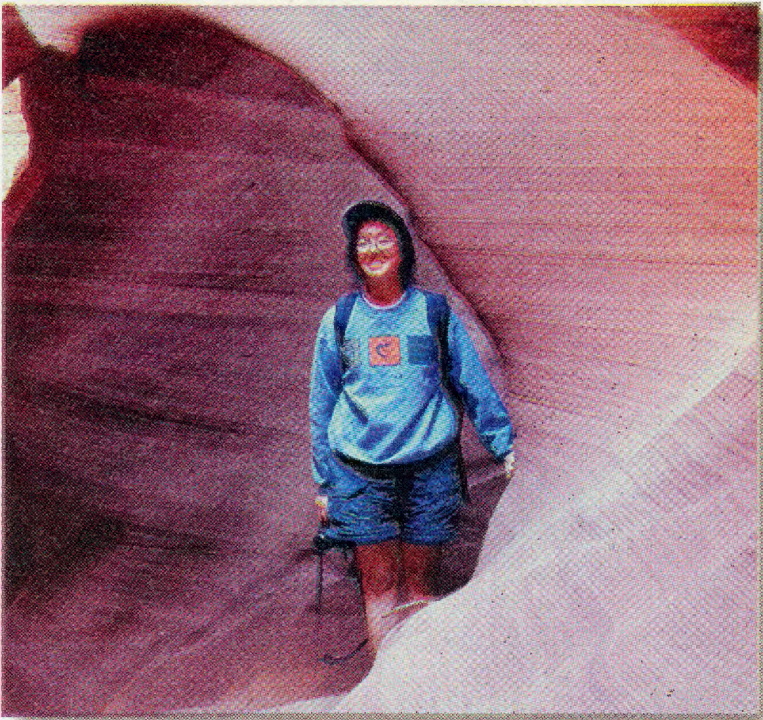
Contrary to popular belief, fossils aren't rare phenomena. What is remarkable, however, is unearthing the remnants of a creature that has, due to some highly unusual conditions, escaped some of the ravages of decay to retain an intact skeleton or even vestiges of delicate tissue like skin and muscle. These finds are the true gems of the fossil world. Not only do they convey key information about the organism's form, but they also shed light on the larger issues of function, behavior, evolution, and ecology of life in the ancient world.

The geology and paleontology of such wondrous specimens are the focus of Academy senior science educator Dr. Carol Tang's adult seminar, "Exceptional

Marine Fossil Deposits." The co-editor of a recent book that is the first to collect studies of special fossil sites into one resource, Dr. Tang considers the more obscure deposits the most intriguing. "Many people have already heard of the famous Jurassic German deposits or the Burgess Shale of Canada, but there are so many deposits which few people—even few paleontologists—have ever heard about," she says. An example is the Cambrian deposits in Nevada that include preserved soft-bodied jellyfish, sponges, and extinct echinoderms.

Discover these little-known treasures of the fossil world as well as legendary sites, and be amazed at the extraordinary diversity that has defined the history of life.

Tuesday, June 17, 7–9 pm; \$20 members/\$30 non-members ①



Dr. Carol Tang, Academy Senior Science Educator

MORE YOUTH & ADULT COURSES

Botany of the Bay Area: Coastal Plant Communities

Discover the unique mechanisms the Bay Area's coastal plants have developed to live in harsh coastal communities. Instructed by botanist Glenn Keator. *Adult Seminar and Field Trip—3 Wednesdays, June 11, 18 & 25, 7–9 pm & 3 Sundays, June 15, 22 & 29, 10 am–3 pm; \$100 members/\$110 non-members ①*

Life in Space

Investigate one of the greatest quests of all time: the search for life in the universe. Instructed by SETI astronomer Seth Shostak. *Adult Seminar—2 Thursdays, June 12 & 19, 7–9 pm; \$30 members/\$40 non-members ①*

The Secret Lives of Birds

Discover the unexpected places birds build their nests, the materials they use, and the variety of parenting skills they employ in Golden Gate Park and in your own backyard. Instructed by Academy

ornithologist Moe Flannery. *Field Trip for Families with Children Ages 6 and up—Saturday, June 28, 9 am–noon; \$25 adults/\$20 children, members ① \$35 adults/\$30 children, non-members*

Nesting Birds of the San Francisco Coast

Get a Fourth of July glimpse of how very special the western edge of San Francisco is with its varied, unique nesting habitat for birds. Instructed by birder Dan Murphy. *Adult Field Trip—Friday, July 4, 8 am–noon; \$30 members/\$40 non-members ①*

Riding the Curvatures of Spacetime

Using a pictorial approach, examine falling apples, the bizarre behavior of black holes, and the shape of the universe to understand Einstein's general theory of relativity. Instructed by research scientist Steve Bryson. *Adult Seminar—6 Tuesdays, July 8, 15, 22, 29; August 5, 12, 7–9 pm; \$90 members/\$100 non-members ①*

Drawing in skulls

Spend a special evening drawing in the skulls exhibit after the crowds have gone home. Instructed by artist Jacqueline Ruben. *Workshop for Families with Children Ages 7 and up—Friday, July 11, 6–8:30 pm \$25 adults/\$20 children, members ① \$35 adults/\$30 children, non-members*

Portrait of a Tree

Learn three watercolor techniques while developing a feeling for color, composition, and value. Then test out your new skills with a variety of subjects at Strybing Arboretum & Botanical Gardens. Instructed by artist Nell Melcher. *Adult Workshop—Sunday, July 13, 10 am–4 pm; \$55 members/\$65 non-members ①*

i For registration information and more details, including other course offerings, call (415) 750-7100 or visit www.calacademy.org/education.

Morrison Planetarium

June Dean Lecture

Black Holes, Jets and Einstein's Dream

Active galaxies shine more brightly than regular galaxies due to increases in the mass of enormous black holes at their centers as gravity causes the collection of surrounding interstellar gases and other objects. Some produce jets moving at nearly the speed of light, leading to several illusions predicted by Einstein. Phenomena that Einstein only imagined are now observed in many places in our Universe.

Dr. Meg Urry from Yale University will discuss these fascinating objects in the final lecture of the spring Dean series. *Tuesday, June 10, 7:30–9 pm, \$3*

To be placed on an electronic mailing list for information about the Dean Lecture Series in Astronomy, please send an e-mail to deanseries@calacademy.org. Your e-mail address will not be used for any other purpose.



Dr. Meg Urry will speak about active galaxies in the sky at the Academy on June 10.

i Lecture tickets are \$3 each and may be purchased using the form on page 5 or at the door. Please contact the Planetarium Office at (415) 750-7127 or visit www.calacademy.org for more information.

Sky Shows

When we look at the night sky, we're looking so far across space that the light of distant stars took years—if not centuries—to reach our eyes. For example, the light we see tonight from the Hyades star cluster in Taurus the Bull left its stars when the California Academy of Sciences was founded in 1853. In **150 Years From Earth**, we look at this and other objects in the heavens within the distance that light has traveled in the past 150 years.

150 Years From Earth will be offered weekdays at 2 pm and weekends at 2 & 3 pm through Sunday, June 15.

The planetarium will be closed Monday, June 16 through Thursday, June 19 for installation of our new feature show, **Martian Nights**. This year, with Mars at its closest to Earth in recorded history and three spacecraft being launched towards it, explore the lore and lure of the mysterious "Red Planet." Why has it inspired human imagination to run wild for so long? Why do scientists think life may be found there? Will humans ever walk on its rust-colored surface?

Martian Nights will be offered weekdays at 2 pm and weekends at 2 & 3 pm beginning Friday, June 20.

Stars Over San Francisco—Then and Now, our 50th anniversary show, continues as the second feature at 1 pm on weekends. Weekend shows also include the family show, **What's Up?**, at 12 pm, and **The Sky Tonight**, our tour of the current night sky, at 4 pm.

Our expanded summer schedule begins Tuesday, July 1. **Stars Over San Francisco—Then and Now**, will be shown every day: 12:30 pm on weekdays and 1 pm on weekends. We are also presenting **What's Up?** at 11:30 am on weekdays and 12 pm on weekends, and **The Sky Tonight** weekdays at 3:30 pm and weekends at 4 pm.

i Members may exchange their planetarium vouchers for free tickets to Sky Shows or purchase additional tickets at the Planetarium Ticket Booth in Gary Larson Hall, starting 30 minutes before each show. \$2.50 for adults & \$1.25 for children 6–17 and senior citizens over 65. Shows are approximately 40 minutes in length. For more information call (415) 750-7141 or visit www.calacademy.org/planetarium. Schedules subject to change.

Sign Up For Academy Bytes

Get a monthly update of events, lectures, and programs taking place at the Academy. Send an email to info@calacademy.org with "Academy Bytes" in the subject line.

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POSTMASTER: Send address changes to Academy, Membership Department, California Academy of Sciences, 50 Tea Garden Drive, Golden Gate Park, San Francisco, CA 94118.

JUNE

4 WEDNESDAY

Bare Bones

Take a crash course on recognizing animals by their skulls alone. Examine human, hyena, turtle and rodent skulls, learning important details used by experts to compare species. 11:30 am & 1:30 pm (415) 750-7348 **F**

5 THURSDAY

Skull Sounds

Discover the strange sounds that animals can make with their skulls, and explore the way your skull affects your voice. 11:30 am & 1:30 pm; (415) 750-7348 **F**

7 SATURDAY

Children's Story Time

Stories from the Seashore. For ages 3-7. 10:30 am **F**

How Do They Do That?

How do animals locate prey without seeing it or hearing it? Or swallow prey bigger than their heads? Explore animal senses by looking at skulls. 11:30 am & 1:30 pm; (415) 750-7348 **F**

8 SUNDAY

Bird Skulls

Meet a live toucan, touch real bird skulls and explore avian skull design. 11:30 am & 1:30 pm (415) 750-7348 **F**

10 TUESDAY

Black Holes, Jets and Einstein's Dream

See page 3 for more information on this lecture. 7:30-9 pm; (415) 750-7348

11 WEDNESDAY

Bare Bones

See June 4 for description. 11:30 am & 1:30 pm (415) 750-7348 **F**

Botox Nation: When Human Faces Lose Their Humanity



Dr. Nina G. Jablonski

Nina G. Jablonski, Ph.D. Botox cosmetic procedures have become a popular and relatively painless way to reduce the severity of frown lines and make the face look younger. Join Jablonski for this lecture as she explores how the use of Botox, by immobilizing the muscles in the face,

may lead to miscommunication of feelings and intentions. Free to members/ \$8 non-members; 2 & 7:30 pm (415) 750-7096 **F**

Botany of the Bay Area: Coastal Plant Communities

Reservations recommended for this seminar; reservations required for the field trip. See page 3 for information. 7-9 pm **D**

12 THURSDAY

Make A Skull

Examine real skulls and then make a simple machine skull model of your own. All ages. 12:30-3:30 pm; (415) 750-7348 **F**

Life in Space

Reservations required for this seminar. See page 3 for information. 7-9 pm **D**

Commemorating the 50th Anniversary of the First Ascent of Everest

Peter Hillary

For more information on this lecture see page 2. \$6 members/\$8 non-members. 7:30 pm (415) 750-7096 **D**

14 SATURDAY

Children's Story Time

Stories from the Seashore. For ages 3-7. 10:30 am **F**

Mysterious Victims

Examine the hunting technique of hawks, eagles and other flying predators, then help reconstruct the scene of the crime as we identify the skulls of their prey. 11:30 am & 1:30 pm; (415) 750-7348 **F**

A Social History of Juggling

Juggler Andrew Conway discusses the social contexts surrounding the traditional art of juggling. His presentation will be illustrated with lively demonstrations of various styles of juggling and the use of such diverse props as clubs, balls, rings, devilsticks, diabolos, and cigar boxes.* 1 pm (415) 750-7145 **F**

15 SUNDAY

Make A Skull

See June 12 for description. 12:30-3:30pm (415) 750-7348 **F**

17 TUESDAY

Owl Pellet Forensics

Look for skulls in owl pellets and find out who is on the menu. We'll provide owl pellets, dissecting tools, and skull identification guides. 11:30 am-12:30 pm (415) 750-7348 **F**

Exceptional Marine Fossil Deposits

Reservations recommended for this seminar. See page 3 for more information. 7-9 pm **D**

18 WEDNESDAY

Bird Skulls

See June 8 for description. 11:30 am & 1:30 pm (415) 750-7348 **F**

19 THURSDAY

How Do They Do That?

See June 7 for description. 11:30 am & 1:30 pm (415) 750-7348 **F**

21 SATURDAY

Children's Story Time

Stories from the Seashore. For ages 3-7. 10:30 am **F**

Make A Skull

See June 12 for description. 12:30-3:30 pm (415) 750-7348 **F**

continued from Saturday, June 21

Oral Improvisation Workshop

Improvisation—the art of on-the-spot creation—is central to the oral traditions of many societies. In Eastern Europe, Central and Southeast Asia, Africa and elsewhere, the verbal dexterity required to compose oral verse is a valued skill. In this workshop, poet and storyteller Tureeda Mikell offers you the chance to develop your own skills in the creation of oral poetry.* 1 pm; (415) 750-7145 **F**

22 SUNDAY

Make A Skull

See June 12 for description. 12:30-3:30 pm (415) 750-7348 **F**

25 WEDNESDAY

Make A Skull

See June 12 for description. 12:30-3:30 pm (415) 750-7348 **F**

26 THURSDAY

Make A Skull

See June 12 for description. 12:30-3:30 pm (415) 750-7348 **F**

28 SATURDAY

The Secret Lives of Birds

Reservations required for this seminar and field trip. See page 3 for information. 9 am-noon **D**

Children's Story Time

Stories from the Seashore. For ages 3-7. 10:30 am **F**

Make A Skull

See June 12 for description. 12:30-3:30 pm (415) 750-7348 **F**

Chinese Dance

Diana Ming Chan and the Heritage Dancers perform songs and dances from the folk and classical traditions of China.* 1 pm; (415) 750-7145 **F**

Live Penguins

See live penguins up close and learn about their history at the Steinhart Aquarium. Biologist and penguin keeper Pamela Schaller will share with us what it's like to care for wet feathered friends and the Aquarium's role as Species Survival Plan member. 1:30 pm **F**

29 SUNDAY

Bird Skulls

See June 8 for description. 11:30 am & 1:30 pm (415) 750-7348 **F**

Just Say Jazz

Presents an introduction to the uniquely American form of jazz. They perform a variety of tunes which will demonstrate both a historical and theoretical understanding of jazz music. The basic elements of jazz will be discussed, including improvisation, the core of jazz creation. 1 pm **F**



Just Say Jazz Sextet

PHOTO: YOUNG AUDIENCES OF THE BAY AREA

JULY

11 FRIDAY

Drawing in skulls

Reservations required for this workshop. See page 3 for information. 6–8:30 pm **D**

2 WEDNESDAY

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

Live Penguins

See June 28 for description. 1:30 pm **F**

3 THURSDAY

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

4 FRIDAY

Nesting Birds of the San Francisco Coast

Reservations required for this field trip. See page 3 for information. 8 am–noon **D**

5 SATURDAY

Children's Story Time

Stories of plants in bloom. For ages 3–7. 10:30 am **F**

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

6 SUNDAY

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

8 TUESDAY

Riding the Curvatures of Spacetime

Reservations required for this seminar. See page 3 for information. 7–9 pm **D**

9 WEDNESDAY

Village Children: Renewal in the 21st Century

Phil Rasori, M.D.

Join Rasori as he explains how a successful village bank in Africa is improving the lives of children in a poor Kenyan village. His photography exhibit on the world's village children is on display in the Academy Café. Free to members/ \$8 non-members. 2 & 7:30 pm

(415) 750-7096 **F**



PHOTO: PHIL RASORI

12 SATURDAY

Children's Story Time

Stories of plants in bloom. For ages 3–7. 10:30 am **F**

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

The Last Chance Dance

12th Annual Summer Gala

See page 7 for more information. 8:30 pm–12:30 am (415) 750-7219 **D**

13 SUNDAY

Portrait of a Tree

Reservations required for this workshop. See page 3 for information. 10 am–4 pm **D**

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

15 TUESDAY

Owl Pellet Forensics

June 17 for description. 11:30 am–12:30 pm **F**

16 WEDNESDAY

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

19 SATURDAY

Children's Story Time

Stories of plants in bloom. For ages 3–7. 10:30 am **F**

Make A Skull

See June 12 for description. 12:30–3:30 pm **F**

Caribbean Rhythms

Zeke Nealy and his percussion ensemble present a workshop on music from Cuba, Haiti, Trinidad, with a touch of Brazilian flavor. Come try out your skill on the drums, shakers and bells.* 1 pm; (415) 750-7145 **F**

20 SUNDAY

Bird Skulls

See June 8 for description. 11:30 am & 1:30 pm **F**

23 WEDNESDAY

How Do They Do That?

See June 7 for description. 11:30 am & 1:30 pm **F**

24 THURSDAY

Mysterious Victims

June 14 for description. 11:30 am & 1:30 pm **F**

26 SATURDAY

Children's Story Time

Stories of plants in bloom. For ages 3–7. 10:30 am **F**

How Do They Do That?

See June 7 for description. 11:30 am & 1:30 pm **F**

Magic Show and Workshop

Magician Gerardo Martínez demonstrates his skills in the traditional art of illusion. Following his performance, Gerardo offers a workshop in magic, including free magic tricks for all participants!* 1 pm (415) 750-7145 **F**

27 SUNDAY

Bird Skulls

See June 8 for description. 11:30 am & 1:30 pm **F**



30 WEDNESDAY

Bare Bones

See June 4 for description. 11:30 am & 1:30 pm **F**

31 THURSDAY

Mysterious Victims

See June 14 for description. 11:30 am & 1:30 pm **F**

MEMBER INFORMATION

Guided Tours: Free one-hour highlight tours daily Open 365 days a year.

Regular hours (Labor Day weekend to Memorial Day) 10 am–5 pm Summer hours (Memorial Day weekend to Labor Day) 9 am–6 pm

Information Hotline: (415) 750-7145

Web site: www.calacademy.org

Email: info@calacademy.org

For information during the weekend: (415) 750-7375

Special Lectures: (415) 750-7128

Membership: (415) 750-7111

Library: (415) 750-7102

Education: (415) 750-7100

* Traditional Arts Programs are free; no reservations are needed. For further information on these and other Traditional Arts Programs, contact Dr. Jennifer Michael at (415) 750-7165, or visit www.calacademy.org. The Traditional Arts Program is funded by the Paul L. and Phyllis Wattis Foundation.

ORDER FORM

LECTURES & EVENTS

	QTY MEMBERS	QTY NON-MEMBERS	TOTAL
Black Holes, Jets and Einstein's Dream p.3	x\$3	x\$3	=
Botox Nation p.4	FREE	x\$8	=
50 Years of Climbing Everest p.2	x\$6	x\$8	=
Village Children p.5	FREE	x\$8	=
12th Annual Summer Gala p.7	x\$100	x\$125	=

FIELD TRIPS, SEMINARS & WORKSHOPS

To register for courses and other educational offerings, see page 3.

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TOTAL PAYMENT ENCLOSED \$ ☐ Check (made payable to CAS)

☐ Visa ☐ Mastercard ☐ American Express (\$10 minimum on credit card orders)

Card Number Exp. Date

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In Research Social Spiders

Several spider species have learned to live with large numbers of their own kind – plus a few impostors.

Once they reach maturity, most spiders only seek out another adult for one of two reasons: to mate, or to eat each other. However, several species have evolved a more tolerant attitude toward their kin. Living in groups of up to several hundred individuals, these social spiders work together to capture prey and construct a communal nest, which they build out of silk, plant matter, and prey remains in the middle of their web.



PHOTO: TERESA MEIKLE

Social spiders work as a team to tackle their prey.

Academy entomologist Charles Griswold first studied social spiders in the genus *Stegodyphus* while conducting research in South Africa in the 1980's. To his surprise, he found impostors from a separate species living undetected among the

Stegodyphus spiders, eating their food and enjoying the protection of their nest without contributing to the workload. Because of their behavior, these impostors are called kleptoparasites.

In January and February of this year, Griswold traveled to Madagascar, where he found new populations of social spiders in the *Stegodyphus* genus. This time, however, he didn't find any kleptoparasites. Madagascar has been separated from the African continent for about 120 million years, so its *Stegodyphus* spiders must have evolved either before the landmasses split or traveled across the ocean at a later time. The apparent absence of kleptoparasites in Madagascar points toward the latter scenario, since they are less likely to be present if their hosts had to make an ocean voyage.



PHOTO: TERESA MEIKLE

Imposters from separate species, kleptoparasites reap the rewards of the social spiders' system without doing any of the work.

—Stephanie Greenman, sgreenman@calacademy.org

In Retrospect 1874 - California's First Public Museum?

The Academy spent most of its first 20 years in rented rooms at 622 Clay Street, usually unable to pay even a modest rent. Several supportive landlords became Life Members and let us use space gratis. According to Theodore Henry Hittell (Academy historian) in his 1903 50th anniversary talk:

"The scientific work in the meanwhile continued to go on with the same enthusiasm as from the start but the meeting room became too small and inconvenient, and the library, cabinet and collections were growing too large to be properly kept in such limited quarters. Various propositions were made to box up the properties and store them..."

In early 1874, having grown to a total membership of 472, an unprecedented treasury of \$4,462.72, and departments "in fair condition, but strained for want of room," the Academy was finally able to lease the first building of its own, the old First Congregational church on the southwest corner of California and Dupont (now known as Grant), on the fringe of the infamous Barbary Coast. There, the Academy opened what may have been California's first public museum. The lease was for \$250 per month, and the proprietor, Mr. Henry M. Newhall, donated \$100 back to the Academy each month. (The building had been constructed in 1853, and its congregation had since

moved on to larger quarters and a better neighborhood.)

With the purchase of a large natural history collection from Ward's, a company that sold natural history exhibits, in 1882—by railroad barons Leland Stanford and Charles Crocker—including the massive mammoth reconstruction, Academy exhibits reached new heights (literally). The Academy remained in the leased church until 1891, when it became its own landlord in a brand new home on Market Street.

—Michele Welck, mwelck@calacademy.org

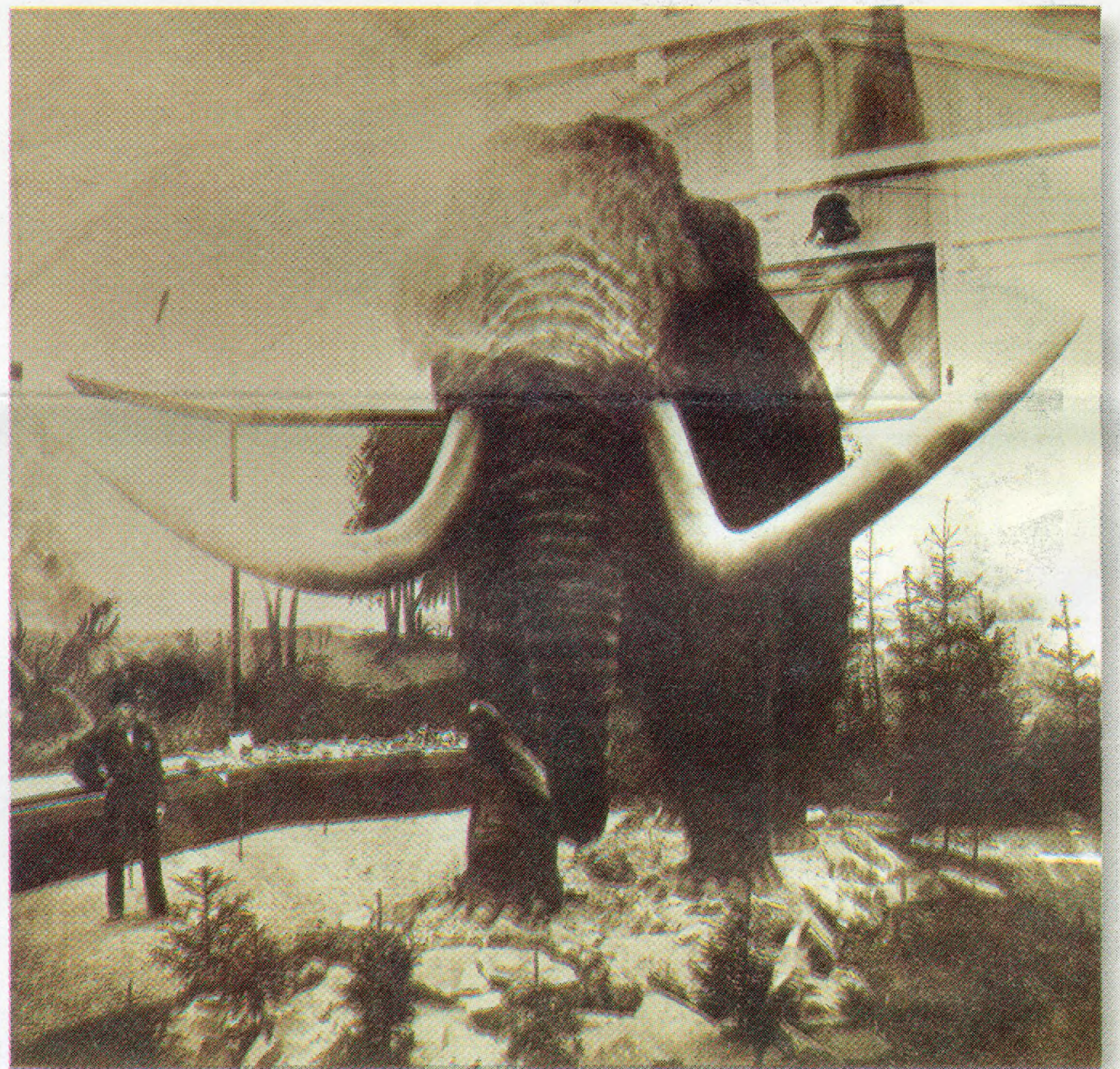


PHOTO: (N1328) SPECIAL COLLECTIONS/CAS LIBRARY

The interior of the Academy's first museum, located in the old First Congregational Church building on the corner of California and Dupont, circa 1882.

Volunteer Profile One Million Specimens, One At A Time

Almost since the cradle, Peter Myers has been collecting shells. With indulgent parents taking him in hand, he spent much of his childhood at museums, local beaches, and explorations around the world with the express purpose of expanding and developing his collection. Whether it

was the tiger cowrie (a gastropod with an unusually beautiful sea shell) he first espied at a relative's or a more elemental attraction to the sea itself, he has nurtured an unusual love of shells throughout his life.

Several years ago, when he left a corporate career as a systems analyst, he wanted to

develop as an "advanced amateur" naturalist by working in a museum setting. Myers' job in the Academy's Invertebrate Zoology and Geology Department is mostly about conservation of scientific specimens.

Conservation of these items is essential, especially for specimens that, as Myers says, "are gone or will be gone soon" from the wild.

"Only through museums will we have access to these animals. They are of endless value," he says. "Proper museum procedures require inordinate attention to detail, as any distraction could ruin their scientific value."

Currently, Myers is "re-housing" specimens for the Academy's move to 875 Howard Street in early 2004. All the department's specimens, almost one million total, need to be taken out of their 19th century bottles and glasses and put into boxes shrouded with acid free paper.

"Suddenly everything in my life is 'acid free,'" says

Myers. Over time acid vapors from non-acid-free paper pit and dissolve shells and remove their natural shine, a process called Byne's disease.

"Each specimen tells a story, whether it's a note detailing an argument about who found the object first, or scribbled identification data on a torn piece of cardboard from an old Frosted Flakes cereal box," says Myers. "The work that I do in the present preserves the past for the future."

"If I were a multi-millionaire, I would donate half of all my fortune to the Academy."

Instead, Myers is slated to donate the better part of his priceless shell collection to the Academy. No doubt it will be perfectly documented and beautifully preserved.

—Rosalind Henning, rehenning@calacademy.org



PHOTO: AMANDA GRIMES

Peter Myers, invertebrate collector

Dancing Through Time

18th Annual Academy Ball

On May 16, 2003, the California Academy of Sciences held the last ball at the current facility in Golden Gate Park, a glorious celebration of the institution's 150th anniversary. Guest of honor was the renowned architect and designer of the new Academy, Renzo Piano of Milan. This grand event benefits all Academy programs and helps it in its continuing mission to explore and explain the natural world.

A cocktail party in the tented courtyard, a seated dinner in African Hall, Wild California, and the Steinhart Aquarium, was topped off with a dessert buffet and dancing to the Dick Bright Orchestra. The Academy thanks the generosity of Dodge & Cox and Harry Hagey for its lead corporate sponsorship, followed by major corporate sponsors Maier Siebel Baber and Mihalovich Partners. Major table sponsors also include Bank of America, Hanson, Shawn and Brook Byers, Lew and Suzie Coleman, Gretchen and William Kimball, Christine Russell and Mark Schlesinger. Multiple table sponsorship includes Mr.

and Mrs. Peter Black, Doctors' Industrial Medical Group, Mrs. Morris Doyle, and Patti and Jerry Hume. Also, the following are thanked for their contributions to the success of the evening: Alterpop, Pepsi-Cola Company, Jeffrey Brodtkin, John Keenan, Domaine Chandon, Barbara Carlson, Guenoc Winery, Michael Hensley Party Rentals, Dan McCall & Associates, Precis Vodka, See's Candies, Shreve & Co., Soirée Valet, and Swan Oyster Depot.

Dinner Committee chairs include Wendy and Dick Bingham, Shawn and Brook Byers, Suzie and Lew Coleman, Beth and Jim Dunbar, Patti and Jerry Hume, Marianne and Dick Peterson, Harriet Quarre, Christine Russell and Mark Schlesinger, Judy and Ken Siebel, Shirley and Leo Soong, Angie and Dick Thieriot, Dede Wilsey, Sharon and Russell Woo, and Marcia and Paul Wythes. (We regret the omission of names received too late for publication).



Carla Kocielek, Harriet Quarre and Wendy Bingham model jewelry from Shreve & Co., a 2003 Academy Ball sponsor.

PHOTO: DONG LIN

The Last Chance Dance

12th Annual Summer Gala

The Academy is celebrating its 12th annual gala this summer, which will be held at the Academy on Saturday, July 12, 2003. This year's co-chairs are Shelley Dickerson and Ken and Akiko Freeman. Sumptuous hors d'oeuvres catered by Dan McCall and spirits sponsored by Absolut Vodka featuring Absolut Vanilia Vodka will be enjoyed by 1,200 of the Bay Area's young professionals.

This year's theme, "The Last Chance Dance," reflects yet another step in the Academy's evolution. Come dance at the current Academy before we move downtown at the end of 2003 as part of our major rebuilding project. Our downtown museum and aquarium at 875 Howard Street will open in early 2004. The Academy will reopen in Golden Gate Park in 2008.

On the night of the event, guests will enjoy viewing the 150th anniversary exhibit, allowing them to reDISCOVer the Academy's natural wonders while reveling in a disco theme!

Tickets are \$100 per person for Academy members, \$125 per person for non-members, and \$350 for Benefactors. Thanks also to the "Cheeseballs," our musicians. ①

i For additional information contact Anne Rianda at (415) 750-7219 or arianda@calacademy.org.

Ronato Iwersen and Megan Fung at the 2002 Gala.



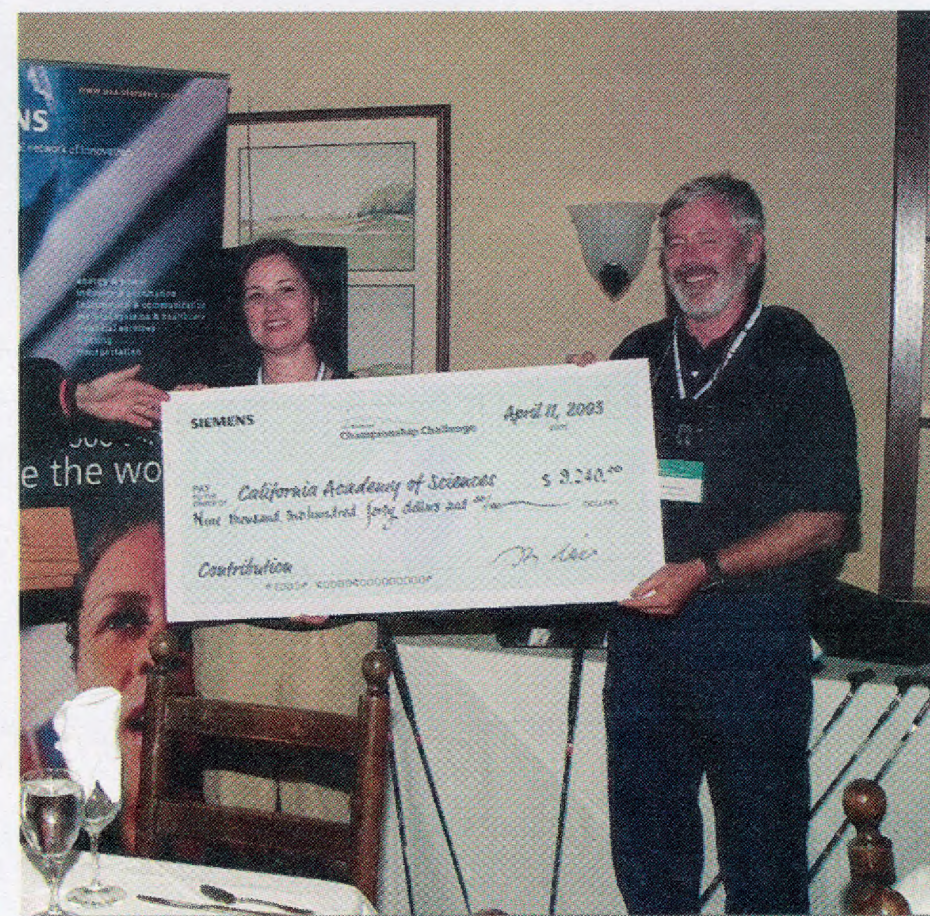
PHOTO: SCOTTIE MORRIS

A Swinging Benefit

The inaugural 2003 Siemens Championship Challenge, benefiting the California Academy of Sciences, was held at the Pasatiempo Golf Club in Santa Cruz on April 11. Siemens executives teamed up with representatives of several of their customers to compete in a friendly round of golf, while at the same time, playing to benefit the Academy.

For every stroke recorded during the tournament, Siemens donated one dollar to the California Academy of Sciences. At the end of the day, Siemens presented the Academy with a check for \$9,420.

The Academy gratefully acknowledges Siemens' generous contribution.



Anne Rianda and Dave Kavanaugh accept the donation from the Siemens Championship Challenge.

Thanks to our Contributors

With a generous gift of \$25,000, **Moody's Corporation** has joined the California Academy of Sciences' Corporate Partners Program at the Sponsor level. The Academy recognizes this support in its 150th Anniversary Celebration Exhibit, *150 Years of Science: Exploring Nature's Wonders*, this year. Moody's provides credit rating services worldwide.

The Academy is also delighted to welcome **Sun Microsystems, Inc.** as a new corporate partner for 2003 at the Entrepreneur level. Ongoing alliances with corporate partners help ensure continued public access to the resources of the California Academy of Sciences.

New Donor Circle Members

January through February 2003: \$125 to \$999

Many thanks to the following new donors and those who have increased their support of the Academy in the last few months.

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Current Exhibits

150 Years of Science: Exploring Nature's Wonders

Through December 31, 2003

150 Years of Science: Exploring Nature's Wonders takes a close look at the Academy's long history of research, education and public programs. Come follow an enormous 200 foot-long timeline and walk through 150 years of history as you learn how world events and major discoveries have shaped the pursuit of science and the Academy. See hundreds of previously unseen treasures from the Academy's collections and view plans for the Academy's future.



Marble staircase and the internal entrance to the museum at Market Street.

PHOTO: [N1342] SPECIAL COLLECTIONS/CAS LIBRARY

Skulls

Through December 31, 2003



Thousands of flesh-eating carrion beetles are busy feasting on dead heads. 860 sea lion skulls have been put into position for a display that runs the length of a professional basketball court. And one physical anthropologist is gazing 3.3 million years into the past at a single monkey. All this and more is on display in **skulls**, an exhibit featuring over 1,700 diverse dead heads, representing animals that range from ancient squirrels to modern mice, and from hawks to humans.

PHOTO: DAVID LIITTSCHWAGER ©2002

Come see this leatherhead turtle skull and hundreds of other dead heads in the skulls exhibit.

X-Ray Ichthyology

Ongoing

Are they works of art or part of a serious scientific study? Both. Prepare to look at fish in a whole new light. **X-Ray Ichthyology** captures 46 fish from the Academy's ichthyology collection on X-ray film. Academy scientists originally prepared these X-rays for scientific purposes but quickly saw their artistic value and wanted to share them with the public. Blown up and backlit, these large-format photographs transform scaly swimmers ranging from piranhas to guitarfish into eerie, luminescent works of art.

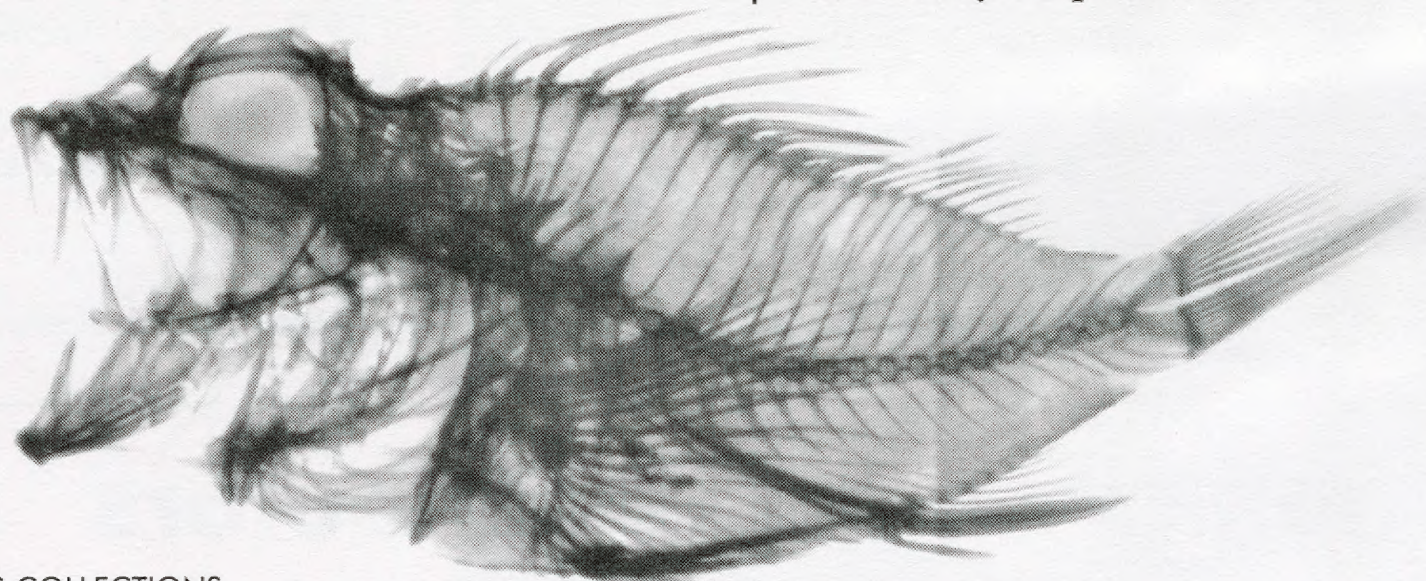


PHOTO: CAS COLLECTIONS

Scorpionfish; *Scorpaena annobonae*—Bill Eschmeyer, Curator of Ichthyology at the Academy, named this new scorpionfish species from the Gulf of Guinea in 1969. Like most scorpionfishes, this species has venom glands associated with its spiky dorsal spines.

Academy Travel

Mysteries of Papua New Guinea and Melanesia

Aboard the *World Discoverer*
September 26–October 14, 2003
With Dr. Terrence Gosliner

Your voyage begins in Papua New Guinea and continues to the islands of Vanuatu and Fiji, most of which are seldom visited and remain pristine and distinctive. *Cost: \$6,985–\$16,239 per person based on double occupancy and airfare.*



PHOTO: GARY WILLIAMS

King Penguins in South Georgia.

Antarctica, the Falkland Islands and South Georgia

Aboard the *Peregrine Voyager*
January 25–February 12, 2004
With Dr. Gary Williams

Departing from Port Stanley, capital of the Falkland Islands, our voyage includes the Falklands, a circumnavigation of mountainous South Georgia – home of 80,000 King Penguins, the South Orkney and South Shetland Islands, the Antarctic Peninsula and the Drake Passage. *Cost: \$7,490–\$12,990 per person based on double occupancy and airfare.*

i For information on these tours, contact the Academy Travel Office at (800) 853-9372, or calacademy@hcaptravel.com.

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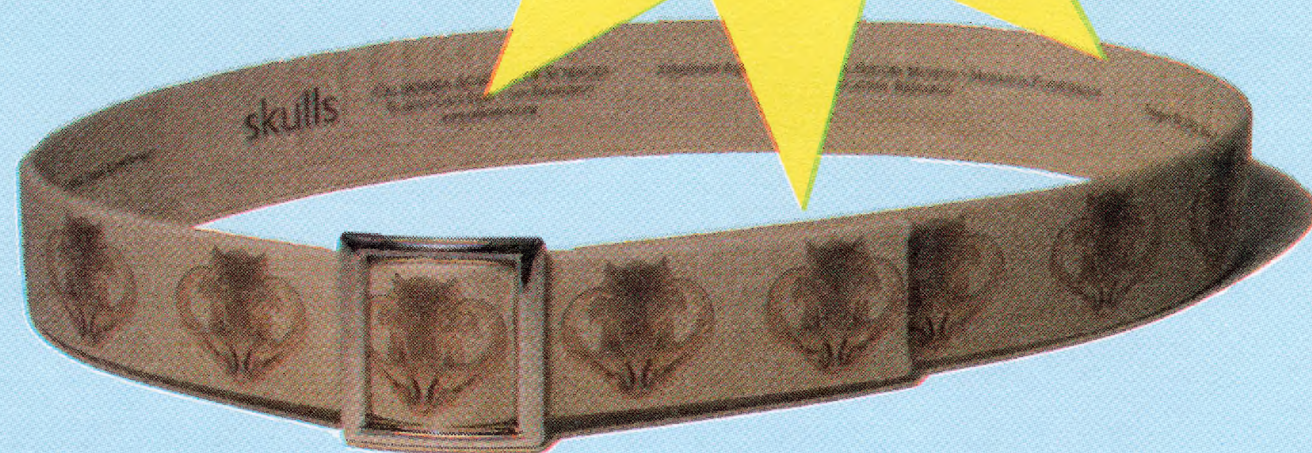


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